IN THE CLAIMS:

Claim 1 (canceled).

Claim 2 (canceled).

Claim 3 (canceled).

Claim 4 (canceled).

Claim 5 (withdrawn): A food preserving device comprising:

a cooling box (1);

a conductive food tray (2) housed in the cooling box (1);

an AC power supply (3) used for applying an AC voltage to the food tray (2); and

a DC power supply (4) used for applying a DC voltage to the food tray (2), wherein

a control means for applying the AC voltage and the DC voltage are simultaneously applied to the food tray (2) for a predetermined time period; and

and then applying one of the AC voltage or the negative DC voltage to the food tray for another predetermined time period

the DC voltage is a negative voltage.

Claim 6 (withdrawn): The food preserving device according to claim 5, further comprising a control unit (5) that controls a voltage application to the food tray (2) by the AC power supply (3) and the DC power supply (4).

Claim 7 (withdrawn): The food preserving device according to any one of claims 5 and 6, wherein after a DC-AC simultaneous application period during which the AC voltage and the DC voltage are simultaneously applied, only one of the DC voltage and the AC voltage is applied to the food tray (2) by the control unit (5).

Claim 8 (withdrawn): The food preserving device according to any one of claims 5 and 6, wherein the cooling box (1) functions as a freezer for freezing the food (9).

Claim 9 (withdrawn): The food preserving device according to claim 7, wherein the cooling box (1) functions as a freezer for freezing the food (9).

Claim 10 (withdrawn): The food preserving device according to any one of claims 5 and 6, wherein the cooling box (1) functions as a refrigerator for refrigerating the food (9).

Claim 11 (withdrawn): The food preserving device according to claim 7, wherein the cooling box (1) functions as a refrigerator for refrigerating the food (9).

Claim 12 (canceled).

Claim 13 (canceled).

Claim 14 (canceled).

Claim 15 (canceled).

Claim 16 (canceled).

Claim 17 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the ~~electrically~~ electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is meat or sea food; and

cooling of the meat or sea food to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing meat or seafood (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the meat or seafood (9), said cooling of the meat or seafood (9) comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the meat or seafood (9)~~, an AC voltage of 755 V or higher and a DC voltage of -970 V or greater than that towards minus side thereof are applied to the food tray (2) ~~and thereby to the meat or seafood~~ so that electric current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the meat or seafood (9)~~, an AC voltage ~~and a DC voltage are applied to the food tray (2) and thereby to the meat or seafood~~ of 755 V or higher is applied to the food tray (2) so that electric current flows in the food tray (2) to which the AC voltage is being applied~~, and~~

~~in the third cooling phase of the meat or seafood (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C.~~

Claim 18 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the ~~electrically~~ electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is meat or sea food; and

cooling of the meat or sea food to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing meat or seafood (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the meat or seafood (9), said cooling of the meat or seafood (9) comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the meat or seafood (9)~~, an AC voltage of 755 V or higher and a DC voltage of -970 V or greater than that towards minus side thereof are applied to the food tray (2) ~~and thereby to the meat or seafood~~ so that electric current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the meat or seafood (9), an AC voltage or~~ a DC voltage of -970 V or greater than that towards minus side thereof is applied to the food tray (2) ~~and thereby to the meat or seafood~~ so that electric current flows in the food tray (2) to which the DC voltage is being applied~~, and~~

~~in the third cooling phase of the meat or seafood (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C.~~

Claim 19 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is vegetables or fruits; and

cooling of the vegetables or fruits to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing vegetables or fruits (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the vegetables or fruits (9), said cooling comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the vegetables or fruits (9)~~, an AC voltage of 180 V or higher and a DC voltage of -180 V or greater than that towards minus side thereof are applied to the food tray (2) ~~and thereby to the vegetables or fruits~~, so that electric current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the vegetables or fruits (9)~~, an AC voltage of 180 V or higher ~~and a DC voltage are~~ is applied to the food tray (2) ~~and thereby to~~

~~the vegetables or fruits~~ so that electric current flows in the food tray (2) to which the AC voltage is being applied~~, and~~

~~in the third cooling phase of the vegetables or fruits (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C.~~

Claim 20 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is vegetables or fruits; and

cooling of the vegetables or fruits to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing vegetables or fruits (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the vegetables or fruits (9), said cooling comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the vegetables or fruits (9)~~, an AC voltage of 180 V or higher and a DC voltage of -180 V or greater than that towards minus side thereof are applied to the food tray (2) ~~and thereby to the vegetables or fruits~~, so that electric current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the vegetables or fruits (9), an AC voltage or~~ a DC voltage of -180 V or greater than that towards minus side thereof is applied to the food tray (2) ~~and thereby to the vegetables or fruits~~ so that electric current flows in the food tray (2) to which the DC voltage is being applied~~, and~~

~~in the third cooling phase of the vegetables or fruits (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C.~~

Claim 21 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is agar jelly; and

cooling of the agar jelly to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing agar jelly (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the agar jelly (9), said cooling comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the agar jelly (9) for 3 to 7 minutes~~, an AC voltage of 755 to 3500 V and a DC voltage of -7160 to -970 V or greater than that towards minus side thereof are applied to the food tray (2) ~~and thereby to the agar jelly~~ so that electric

current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the agar jelly (9)~~, an AC voltage ~~and a DC voltage are~~ of 755 to 3500 V is applied to the food tray (2) ~~and thereby to the agar jelly~~ so that electric current flows in the food tray (2) to which the AC voltage is being applied~~, and~~

~~in the third cooling phase of the agar jelly (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C.~~

Claim 22 (currently amended): A method for preserving a food (9) wherein ~~the food (9) is cooled to -18°C or less within 24 hours and~~ the method comprises the steps of:

placing a food (9) on an electrically conductive food tray (2); and

housing [[an]] the electrically conductive food tray (2) in a cooling box (1); and wherein

an AC output terminal (11) and a DC output terminal (12) are connected to the fool tray (2);

the food (9) housed in the cooling box is agar jelly; and

cooling of the agar jelly to be cooled comprises at least a first cooling phase and a second cooling phase so that:

the first cooling phase and the second cooling phase are carried out while voltage is being applied to the food tray (2); and

~~placing agar jelly (9) directly on and in electrical connection with the food tray (2) as the food (9);~~

~~selectively connecting a source of AC and DC voltage directly to said food tray; and~~

~~cooling the agar jelly (9), said cooling comprising first cooling, second cooling, and third cooling phases, wherein~~

in the first cooling phase ~~of the agar jelly (9) for 3 to 7 minutes~~, an AC voltage of 755 to 3500 V and a DC voltage of -7160 to -970 V or greater than that towards

minus side thereof are applied to the food tray (2) ~~and thereby to the agar jelly~~ so that electric current flows in the food tray (2) to which the AC voltage and the DC voltage are being applied, and

in the second cooling phase ~~of the agar jelly (9), an AC voltage or~~ a DC voltage of -7160 to -970 V or greater than that towards minus side thereof is applied to the food tray (2) ~~and thereby to the agar jelly~~ so that electric current flows in the food tray (2) to which the DC voltage is being applied~~, and~~

~~in the third cooling phase of the agar jelly (9), no voltage is applied to the food tray (2), and the third cooling begins at a temperature of -20°C~~.